AMENDMENT

In the Specification

Please amend the specification as follows:

Please replace the paragraph beginning at page 2, line 10 with the following paragraph:

Fig. 1 also illustrates a typical residential drop 116 of the HFC network 100 as comprising a splitter 118, which provides a CATV signal to one or more A/V systems 120, as well as to one or more computing systems 124 through a cable modem [[124]] 122. In accordance with the Data Over Cable Service Interface Specification (DOCSIS 1.1) Radio Frequency Interface Specification SP-RFIv1.1-106-001215 first released March 11, 1999 by the CableLabs® consortium, conventional fiber nodes 110A-N typically broadcast (*i.e.*, forward or downlink component) to network end-points using M-ary quadrature amplitude modulation (QAM) (*e.g.*, 64- or 256 QAM) in 6MHz channels over a band from 91-857MHz. In the upstream, (*i.e.*, reverse or uplink component) a cable modem 122 transmits in bursts to the fiber node 110A-N using Reed-Solomon encoding and quadrature phase shift-keying (QPSK) or QAM-16 in one of the following channel widths (-30dB bandwidth) of 200-kHz, 400-kHz, 800-kHz, 1.6-MHz, and 3.2-MHz from 5 to 42-MHz (5–65-MHz for EuroDOCSIS). Simply stated, QAM is a combination of phase shift-keying and amplitude shift-keying. That is to say, the information to be transmitted in a QPSK signal is modulated in phase shifts, while the information to be transmitted in a QAM signal is modulated in phase and amplitude shifts, *i.e.*, the differences in phase and amplitude.

Please replace the paragraph beginning at page 10, line 10 with the following paragraph:

More particularly, in accordance with a first embodiment of the present invention, data channel detection agent 214 modifies certain of the cable modem parameters for low signal to noise ratio (SNR) and a wide auto-gain control (AGC) loop bandwidth and carrier loop bandwidth. Channel detection agent 214 then enables the adaptive equalizer (not shown) of QAM modulator to operate in a QPSK mode, as the carrier frequency is swept over the entire bandwidth to obtain a lock. If carrier frequency lock is achieved, the channel is a data channel and the equalizer is reset to the proper QAM mode (*e.g.*, 64-QAM) as the reset of the QAM channel acquisition is continued. If frequency lock is not achieved, the channel is not a data channel, and the channel detection agent 214 moves to the next QAM channel, to perform the same check. QPSK acquisition typically takes less than 10ms per channel, whereas QAM acquisition can take 100ms or more (for 256-QAM).

Please replace the paragraph beginning at page 11, line 9 with the following paragraph:

In an alternate implementation, to be described more fully below, system level solutions to the identification of the data channel in a cable modem are presented. In accordance with a first embodiment, a modulator at, for example the CMTS (not shown) introduces a pilot channel into the broadband signal at one or more of a plurality of frequencies within the broadband spectrum. In one implementation, the channel detection agent 214 is dynamically programmable by the CMTS to tune to a particular pilot channel (*e.g.*, through pre-programming of a look-up table) to receive further information regarding active data channel(s). In such an embodiment, *e.g.*, during downstream channel acquisition, channel detection agent 214 instructs the tuner module 304 (either directly or, perhaps, through some other control logic *e.g.*, control

logic 202) to tune to the pilot channel. The pilot channel includes cable system information including information regarding one or more cable modem operating characteristics such as, for example, data channel information. In this regard, the pilot channel may well include data channel operating parameters such as, for example, one or more of RF frequency(ies) with corresponding modulation format(s) (*i.e.*, 64-QAM or 256-QAM), channel status, channel bandwidth, and the like. The pilot channel is demodulated and the operational parameters are provided to channel detection agent 214, *e.g.*, via acquisition and tracking loops, whereupon channel detection agent 214 provides the data channel information to the control logic, *e.g.*, control logic 202, for storage in memory 210, as above. It will be appreciated by those skilled in the art that the use of such a pilot channel allows the cable operator to re-allocate new or existing cable TV channels for cable modems depending on consumer demand.